

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Upon entry of this Amendment, claims 1-81 are pending in the application. In response to the August 12, 2004 Office Action, Applicant respectfully submits that the pending claims define patentable subject matter.

As a preliminary matter, Applicant thanks the Examiner for indicating that claims 3-21, 26-30, 62-67, 72, 73, 79 and 80 are allowed and claims 46, 47, 51 and 52 would be allowable if rewritten in independent form.

Claims 1, 2, 22-24, 31-35, 39, 48, 53, 56-58, 60 and 68 are now rejected under 35 U.S.C. § 103(a) as being unpatentable over newly cited Ohishi et al. (USP 5,909,257; hereafter "Ohishi") in view of Yuen et al. (USP 6,430,359; hereafter "Yuen '359"). Claims 40, 41, 43, 45, 49, 50, 59, 78 and 81 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohishi in view of Yuen '359 and Saib (USP 6,097,878). Claim 42 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Saib in view of Ohishi in view of Yuen '359 and Coutts (USP 5,742,730). Claims 25, 36-38 and 61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohishi in view of Yuen '359 and Yuen et al. (USP 5,488,409; hereafter "Yuen '409"). Claims 44, 69-71 and 74-77 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohishi in view of Yuen '359, Yuen '409 and Saib. Applicant respectfully traverses the prior art rejections.

Disclosure of Ohishi

Ohishi discloses an apparatus and method of receiving broadcasted digital signal. As shown in Figure 2, a broadcasted digital signal receiving apparatus 200 includes a tuner 11, a digital demodulator and error corrector 20, a switch 14, a program data analyzer 40, a program data modifier 13, a system controller 30, a demultiplexer 50, a switch 110, a video and audio MPEG decoder 60, an adder 80, a selection data input terminal 70, a digital interface 12 and an antenna 90. A digital recording/reproducing apparatus 16 is connected to the broadcasted digital signal receiving apparatus 200 via external digital interface 15 to record and reproduce bit streams of digital data.

The broadcasted digital signal receiving apparatus 200 can be tuned to one of TV programs received via antenna 90 and decodes the one TV program by the decoder 60 to output the decoded analog signal via output terminal 100. In addition, the apparatus 200 can select bit streams of digital data corresponding to several TV programs that an user wants to watch among the bit streams of digital data including all TV programs fed by the digital demodulator and error corrector 20. The selected bit streams can be output via digital interfaces 12 and 15, and recorded by the recording/reproducing apparatus 16. The recorded bit streams can be reproduced and fed to the apparatus 200 to be decoded.

An operation mode of the apparatus 200 is set by entering operation mode data via selection data input terminal 70, such as a keyboard and a mouse. In one of the operation modes, the operation mode data is fed to the system controller 30 that turns the switch 14 onto its contacts a1 and a2 sides, and the switch 110 onto its contact a side, respectively. This switch

control is executed when the apparatus 200 is set in an operation mode where the apparatus is tuned to one of the TV programs conveyed by a digital broadcasting wave signal received via antenna 90. The digital signal is amplified by the tuner 11 with frequency conversion and then fed to the digital demodulator and error corrector 20 to be demodulated with bit error correction. The error-corrected bit streams (digital data) is fed to the program data analyzer 40 and demultiplexer 50 via contacts a1 and v1 of the switch 14. The program data analyzer 40 obtains TV program titles according to the PSI data of a plurality of TV programs in the error-corrected bit streams.

The TV program titles are output from the output terminal 100 via adder 80 and displayed on a screen (not shown). A user refers to the displayed titles and enters data via selection data input terminal 70 to select a TV program. In response to this data entry, the system controller 30 controls the demultiplexer 50 to output the packets that convey data of the selected one TV program. Since the switch 110 has been turned onto its contact a side, these packets are fed to the decoder 60 and transformed into video and audio analog signals. These analog signals of the selected TV program are output from the output terminal 100 via adder 80 in order to display the selected program on the screen.

Alternatively, when the switch 110 is turned onto its contact b side by the system controller 30, the bit streams of the packets that convey data of the selected TV program(s) are fed to the digital interface 12 from the demultiplexer 50. The bit streams are output from the digital interface 12 to the digital recording/reproducing apparatus 16 via external digital interface 15 and recorded on a recording medium. In the case where two or more TV programs are

selected, the packets (TPs) with PMTs of PIDs corresponding to the selected TV programs are also recorded on the recording medium along with the TPs with the audio/video data of the selected TV programs and the TP containing the PAT.

When the recorded TPs are reproduced and provided to the apparatus 200, the selected TV programs can be decoded and output because the recorded and reproduced PAT is modified by the program data modifier 13. That is, if the PMTs corresponding to all TV programs are not recognized from the PAT, the program data modifier 13 modifies the PAT conveyed by the reproduced data streams from the recording/reproducing apparatus 16 into a new PAT which contains data concerning TV programs corresponding to the PMTs recognized by the program data analyzer 40. The analyzer 40 then outputs TV program titles that are output from output terminal 100 via adder 100 and displayed on a screen (not shown). Next, a user selects one of the TV programs with reference to the displayed titles and enters selection data via selection data input terminal 70 and in response to the entered selection data, the system controller 30 designates and informs the demultiplexer 50 of packets containing data of the selected TV program. The demultiplexer 50 then extracts these packets from the reproduced packets and the extracted packets are decoded by the decoder 60 to output video and audio analog signals. The analog signals are output from the output terminal 100 via adder 80 for display on the screen.

Disclosure of Yuen '359

Yuen '359 discloses an apparatus and method using compressed codes for TV program record scheduling. Encoded video recorder/player timer preprogramming information listed in a

television calendar allows a timer preprogramming feature on a video cassette recorder VCR to be programmed using a compressed code (G-code) which is decoded by a G-code decoder built into a remote control, video cassette recorder, television or other video device to convert the compressed code into channel, date, time and length (CDTL) information. The compressed G-code indications associated with each television program can be printed in a television program calendar in advance. The user can use the remote control or controls on the video device to enter the code that signifies the program to be recorded. The CDTL information is used to select channels, start recording, and stop recording at the appropriate time. A local channel map is stored so that the channel information from the compressed codes can be utilized to tune the correct channel even though channel numbers in different localities may be different. The remote may be a universal remote control capable of selecting between various stored command protocols for commanding different brands and model of video devices. Both entering local channel map data and selecting proper remote control command protocols may be accomplished by a keyboard connected to the remote control or other video device or by an external device, including external devices that accomplish this entering and selecting by transmitting over telephone lines.

Independent claims 1, 31, 34, 35, 48 and 68

Independent claim 1 recites:

a receiver including a first digital interface, for generating a control command based on the program information received from said input device, and

for transferring the control command and a multi-program transport stream via said first digital interface; and

a recording/reproducing device including a second digital interface, for decoding the control command transferred from said receiver, and for recording/reproducing the multi-program transport stream transferred from said receiver, corresponding to the program information obtained by decoding the received control command.

The Examiner contends that Ohishi discloses all of the features of the claimed invention except for a recording/reproducing device for decoding the control command transferred from the receiver and for recording/reproducing a multi-program transport stream being received, corresponding to the program information obtained by decoding the received command. However, the Examiner alleges that Yuen '359 discloses these features via the G-code transmitted from a remote controller to the G-code decoder implemented in a receiver, VCR or television. Further, the Examiner asserts that "[i]t would have been obvious to modify Ohishi by adding a G-code decoder to the recording/reproducing apparatus of Ohishi in order to decode a program transport stream, for example."

Applicant respectfully submits that claim 1 would not have been rendered obvious in view of Ohishi and Yuen '359 because the cited references do not teach or suggest transferring a multi-program transport stream and a control command, generated based on the program information received from the input device, from the receiver to the recording/reproducing device via a first (same) digital interface of the receiver and and a second digital interface of the recording/reproducing device. In particular, Ohishi does not teach or suggest transferring via a digital interface a control command generated based on program information received from an

input device, as the Examiner alleges at paragraph b) on page 3 of the Office Action. That is, nowhere does Ohishi teach or suggest transferring a control command of any type from the broadcasted digital signal receiving apparatus 200 to the recording/reproducing apparatus 16 (or any other external device) via digital interfaces 12 and 15. Instead, Ohishi simply teaches that the broadcasted digital signal receiving apparatus 200 transfers selected packets of the transport stream to the recording/reproducing apparatus 16 via digital interfaces 12 and 15.

Although Yuen '359 discloses transmitting channel, date, time and length (CDTL) information from a remote controller to a receiver (e.g., television 950 in Fig. 29) and transmitting the received CDTL information from the receiver to a recording/reproducing device (e.g., VCR 964 in Fig. 29), Yuen '359 does not teach or suggest transferring from a receiver to a recording/reproducing device a multi-program transport stream, and recording/reproducing a multi-program transport stream transferred from the receiver, corresponding to the program information obtained by decoding the received command. Moreover, Yuen '359 teaches that when the G-code decoder is incorporated in a cable box, satellite receiver, VCR or TV, the CDTL information is transferred to other devices via infrared transmitters rather than the digital interface (cable link) used for transmitting audio and video data between the devices.

Thus, even if one of ordinary skill in the art were to modify the system of Ohishi based on the teachings of Yuen '359, which Applicant submits is incorrect, the resulting system would simply include a receiver having a G-code decoder, wherein the G-code is transferred to a recording/reproducing device via an infrared link, and packets of the transport stream are transferred to the recording/reproducing device via a digital interface.

Similar to claim 1, claims 31, 34, 35 and 68 should be allowable because these claims require a digital interface for transferring or receiving both the control command and the multi-program transport stream.

Accordingly, Applicant respectfully submits that claims 1, 31, 34, 35, 48 and 68 should be allowable over Ohishi and Yuen '359 because the cited references, alone or combined, do not teach or suggest all of the features of the claims.

Independent claims 22 and 58

By this Amendment Applicant has amended claims 22 and 58 to recite an additional step of "transferring the program information control command from the receiver to the recording/reproducing device via the digital interface of the receiver and the digital interface of the recording/reproducing device." For the same reasons set forth above with regard to claim 1, Applicant respectfully submits that the cited references, alone or combined, do not teach or suggest this feature of claims 22 and 58. Accordingly, Applicant respectfully submits that claims 22 and 58 should be allowable over the cited references.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Patent Application No. 08/939,442

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Christopher R. Lipp
Registration No. 41,157

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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